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R. MOLLER

9-14-98 *R*

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Form PTO-1449
(REV. 8-83)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. D. NO.
CSDL1-490XXSERIAL NO.
08/841,224

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

APPLICANT: Marc S. Weinberg, et al.

FILING DATE:
April 29, 1997

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*
<i>BB</i>	3 0 5 3 0 9 5	9/62	Koril et al.	73	504	—
	3 2 5 1 2 3 1	5/66	Hunt et al.	73	505	—
	3 3 7 0 4 5 8	2/68	Dillon	73	141	—
	3 9 1 3 0 3 5	10/75	Havens	331	107 R	—
	4 0 4 4 3 0 5	8/77	Oberbeck	324	154 R	—
	4 2 3 4 6 6 6	11/80	Gursky	428	573	—
	4 3 2 1 5 0 0	3/82	Paros et al.	310	321	—
	4 3 8 1 6 7 2	5/83	O'Connor et al.	73	505	—
	4 4 0 6 9 9 2	9/83	Kurtz et al.	338	2	—
	4 4 1 1 7 4 1	10/83	Janata	204	1 T	—
<i>BB</i>	4 4 4 7 7 5 3	8/84	Ochiai	310	312	—

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
55 1 2 1 7 2 8	9/80	Japan	H03H9	19, 05		X
58 1 3 6 1 2 5	8/83	Japan	H03H9	17, 13		X
59 0 3 7 7 2 2	3/84	Japan	H03H9	17, 05		X
59 1 5 8 5 6 6	9/84	Japan	H01L29	84		X
61 1 4 4 5 7 6	7/86	Japan	G01P15	09		X

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

BB Barth, P.W. et al., "A Monolithic Silicon Accelerometer With Integral Air Damping and Overrange Protection",
1988 IEEE, pgs. 35-38.

BB Boxenhorn, B., et al., "An Electrostatically Rebalanced Micromechanical Accelerometer," AIAA Guidance,
Navigation and Control Conference, Boston, August 14-16, 1989, pgs. 118-122.

BB Boxenhorn, B., et al., "Micromechanical Inertial Guidance System and its Application", Fourteenth Biennial Guidance
Test Symposium, Vol. 1, October 3-5, 1989, pgs. 113-131.

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<i>JB</i>	4 4 6 8 5 8 4	8/84	Nakamura et al.	310	370	—
	4 4 7 8 0 7 6	10/84	Bohrer	73	204	—
	4 4 7 8 0 7 7	10/84	Bohrer et al.	73	204	—
	4 4 8 3 1 9 4	11/84	Rudolf	73	517 R	—
	4 4 8 4 3 8 2	11/84	Kawashima	29	25.35	—
	4 4 9 0 7 7 2	12/84	Blickstein	361	281	—
	4 4 9 5 4 9 9	1/85	Richardson	343	5 DD	—
	4 4 9 9 7 7 8	2/85	Westhaver et al.	74	5 F	—
	4 5 0 2 0 4 2	2/85	Wuhrl et al.	340	568	—
	4 5 2 2 0 7 2	6/85	Sulouff et al.	73	765	—
<i>JB</i>	4 5 2 4 6 1 9	6/85	Staudte	73	505	—

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
<i>JB</i> 62 0 7 1 2 5 6	8/87	Japan	H01L27	06		X
2 1 8 3 0 4 0	5/87	Great Britain	G01F	15/02	X	
<i>JB</i> 62 2 2 1 1 6 4	9/87	Japan	H01L29	84		X
63 1 6 9 0 7 8	7/88	Japan	H01L29	84		X

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

JB Boxenhorn, B., et al., "Monolithic Silicon Accelerometer", TRANSDUCERS '89, June 25-30, 1989, pgs. 273-277.

JB Boxenhorn, B., et al., "A Vibratory Micromechanical Gyroscope", AIAA Guidance, Navigation and Control Conference, Minneapolis, August 15-17, 1988, pgs. 1033-1040.

JB Howe, R., et al., "Silicon Micromechanics: Sensors and Actuators on a Chip", IEEE Spectrum, July 1990, pgs. 29-35.

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<i>RB</i>	4 5 3 8 4 6 1	9/85	Juptner et al.	73	505	—
	4 5 8 5 0 8 3	4/86	Nishiguchi	177	229	—
	4 5 9 2 2 4 2	6/86	Kempas	74	5 F	—
	4 5 9 6 1 5 8	6/86	Strugach	74	5 F	—
	4 5 9 8 5 8 5	7/86	Boxenhorn	73	505	—
	4 6 0 0 9 3 4	7/86	Aine et al.	357	26	—
	4 6 1 9 0 0 1	10/86	Kane	455	192	—
	4 6 2 8 2 8 3	12/86	Reynolds	331	68	—
	4 6 2 9 9 5 7	12/86	Walters et al.	318	662	—
	4 6 3 9 6 9 0	1/87	Lewis	331	96	—
<i>RB</i>	4 6 4 4 7 9 3	2/87	Church	73	505	—

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO
92 0 1 9 4 1	2/92	WO International Patent	G01P	9/04		X
93 0 5 4 0 1	3/93	WO International Patent	G01P	9/04	X	

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

<i>RB</i>	Moskalik, L., "Tensometric Accelerometers with Overload Protection", Meas. Tech. (USA), Vol. 22, No. 12, Dec. 1979 (publ. 5/80), pgs. 1469-1471.
<i>RB</i>	Nakamura, M., et al., "Novel Electrochemical Micro-Machining and Its Application for Semiconductor Acceleration Sensor IC", Digest of Technical Papers (1987), Institute of Electrical Engineers of Japan, pgs. 112-115.
<i>RB</i>	Petersen, K.E., et al., "Micromechanical Accelerometer Integrated with MOS Detection Circuitry", IEEE, Vol. ED-29 No. 1 (January 1982), pgs. 23-27.

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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*
<i>RE</i>	4 6 5 1 5 6 4	3/87	Johnson et al.	73	204	///
	4 6 5 3 3 2 6	3/87	Danel et al.	73	517 R	///
	4 6 5 4 6 6 3	3/87	Alsenz et al.	340	870.3	///
	4 6 6 5 6 0 5	5/87	Kempas	29	434	///
	4 6 7 0 0 9 2	6/87	Motamedi	156	643	///
	4 6 7 1 1 1 2	6/87	Kimura et al.	73	505	///
	4 6 7 4 1 8 0	6/87	Zavracky et al.	29	622	///
	4 6 7 4 3 1 9	6/87	Muller et al.	73	23	///
	4 6 7 9 4 3 4	7/87	Stewart	73	517 B	///
	4 6 8 0 6 0 6	7/87	Knutti et al.	357	26	///
<i>RE</i>	4 6 9 9 0 0 6	10/87	Boxenhorn	73	517 AV	///

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
					YES NO

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

<i>RE</i>	Petersen, Kurt E., et al., "Silicon as a Mechanical Material", <u>Proceedings of the IEEE</u> , Vol. 70, No. 5, May 1982 pgs. 420-457.
<i>RE</i>	"Quartz Rate Sensor Replaces Gyros", <u>Defense Electronics</u> , November 1984, pg. 177.
<i>RE</i>	Rosen, Jerome, "Machining In the Micro Domain", <u>Mechanical Engineering</u> , March 1989, pgs. 40-46.

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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE*
<i>JE</i>	4 7 0 5 6 5 9	11/87	Bernstein et al.	264	29.6	///
	4 7 0 6 3 -7 4	11/87	Murkami	437	225	///
	4 7 1 2 4 3 9	12/87	North	74	84 R	///
	4 -7 3 6 6 2 9	4/88	Cole	73	517 R	///
	4 7 4 3 7 8 9	5/88	Puskas	310	316	///
	4 7 4 4 2 -4 8	5/88	Stewart	73	505	///
	4 7 4 4 2 4 9	5/88	Stewart	73	505	///
	4 7 4 -7 3 1 2	5/88	Herzl	73	861.38	///
	4 7 5 0 3 6 4	6/788	Kawamura et al.	73	510	///
	4 7 6 4 2 4 4	8/88	Chitty et al.	156	630	///
<i>JE</i>	4 7 7 6 9 2 4	10/88	Delapierre	156	647	///

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
					YES NO

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

JE Teknekron Sensor Development Corporation, article entitled "Micro-Vibratory Rate Sensor", 1080 Marsh Road, Menlo Park, CA 94025, 2 pages, undated.

JE Bryzek, Janusz et al., "Micromachines on the March", IEEE Spectrum, May 1994, pgs. 20-31.

JE IEEE Robotics & Automation Soc, in coop. w/ASME Dynamic Systems & Control Div., "Micro Electro Mechanical Systems, An Investigation of Mirco Structures, Sensors, Actuators, Machines and Systems", IEEE Cat. #93CH3265-6, Library of Congress #92-56273, Ft. Lauderdale, Fl. 2/7-10/93.

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<i>JS</i>	4 7 8 3 2 3 7	11/88	Aine et al.	437	15	_____
	4 7 8 9 8 0 3	12/88	Jacobsen et al.	310	309	_____
	4 7 9 2 6 7 6	12/88	Hojo et al.	250	231 GY	_____
	4 8 0 5 4 5 6	2/89	Howe et al.	73	517 AV	_____
	4 8 0 8 9 4 8	2/89	Patel et al.	331	4	_____
	4 8 5 1 0 8 0	7/89	Howe et al.	156	647	_____
	4 8 5 5 5 4 4	8/89	Glenn	200	61.45 R	_____
	4 8 6 9 1 0 7	9/89	Murakami	73	517 R	_____
	4 8 8 2 9 3 3	11/89	Petersen et al.	73	517 R	_____
	4 8 8 4 4 4 6	12/89	Ljung	73	505	_____
<i>JS</i>	4 8 9 0 8 1 2	1/90	Chechile et al.	248	674	_____

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<i>JE</i>	4 8 9 3 5 0 9	1/90	MacIver et al.	73	517 AV	<i>---</i>
	4 8 9 9 5 8 7	2/90	Staudte	73	505	<i>---</i>
	4 9 0 0 9 7 1	2/90	Kawashima	310	361	<i>---</i>
	4 9 1 6 5 2 0	4/90	Kurashima	357	71	<i>---</i>
	5 0 0 1 3 8 3	3/91	Kawashima	310	367	<i>---</i>
	5 0 1 6 0 7 2	5/91	Greiff	357	26	<i>---</i>
	5 0 2 5 3 4 6	6/91	Tang, et al.	361	283	<i>---</i>
	5 2 4 1 8 6 1	9/93	Hulsing, II	73	505	2/8/91
	5 2 3 3 8 7 4	8/93	Putty et al.	73	517 AV	8/19/91
	5 2 2 6 3 2 1	7/93	Varnham et al.	73	505	5/17/91
<i>JE</i>	5 2 0 5 1 7 1	4/93	O'Brien et al.	73	517B	1/11/91

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<i>JS</i>	5 1 3 8 8 8 3	8/92	Paquet et al.	73	504	<u> </u>
	5 0 9 4 5 3 7	3/92	Karpinski, Jr.	356	350	<u> </u>
	5 0 9 0 8 0 9	2/92	Ferrar	356	350	<u> </u>
	4 9 8 1 3 5 9	1/91	Tazartes et al.	356	350	<u> </u>
	4 9 2 9 8 6 0	5/90	Hulsing, II et al.	310	366	<u> </u>
	4 9 2 2 7 5 6	5/90	Henrion	73	517 R	<u> </u>
	4 8 9 8 0 3 2	2/90	Voles	73	505	<u> </u>
	4 8 3 4 5 3 8	5/89	Heeks et al.	356	350	<u> </u>
	4 7 6 1 7 4 3	8/88	Wittke	364	484	<u> </u>
<i>JS</i>	4 7 3 5 5 0 6	4/88	Pavlath	356	350	<u> </u>
	4 7 2 7 7 5 2	3/88	Peters	73	517 AV	<u> </u>

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<i>JS</i>	4 5 9 0 8 0 1	5/86	Merhav	73	510	_____
	4 4 1 4 8 5 2	11/83	McNeill	73	765	_____
	4 3 3 6 7 1 8	6/82	Washburn	73	517 B	_____
	4 1 5 5 2 5 7	5/79	Wittke	73	497	_____
	4 1 4 4 7 6 4	3/79	Hartzell, Jr.	73	497	_____
	4 1 2 2 4 4 8	10/78	Martin	343	7.7	_____
	3 6 9 6 4 2 9	10/72	Tressa	343	180	_____
	R E 3 3 4 7 9	12/90	Juptner et al.	73	505	_____
	R E 3 2 9 3 1	5/89	Staudte	73	505	_____
	5 0 6 0 0 3 9	10/91	Weinberg et al.	357	26	_____
<i>JS</i>	5 1 9 5 3 7 1	3/93	Grieff	73	505	2/14/90

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	5 2 1 6 4 9 0	6/93	Greiff, et al.	73	517 R	8/3/90
	4 9 0 1 5 8 6	2/90	Blake et al.	73	862.59	_____
	5 0 3 8 6 1 3	8/91	Takenaka et al.	73	510	_____
	4 8 1 5 4 7 2	3/89	Wise et al.	128	675	_____
	4 8 8 1 4 1 0	11/89	Wise et al.	73	724	_____
	5 0 5 5 8 3 8	10/91	Wise et al.	340	870	_____
	5 0 1 3 3 9 6	5/91	Wise et al.	156	628	_____
	4 3 4 2 2 2 7	8/82	Petersen et al.	73	510	_____
<i>JS</i>	4 6 2 1 9 2 5	11/86	Masuda et al.	356	350	_____

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